APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/511,777	02/24/2000	Okoziem Allen	2204/A14	5651

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EXAMINER
ENGLAND, DAVID E

ART UNIT	PAPER NUMBER
2143	

DATE MAILED: 02/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/511,777	ALLEN ET AL.
	Examiner	Art Unit	
	David E. England	2143	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _19 October 2004_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1 – 4 and 6 – 16_ is/are pending in the application.

  4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1 – 4 and 6 – 16_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

  a)☐ All b)☐ Some * c)☐ None of:

  1.☐ Certified copies of the priority documents have been received.

  2.☐ Certified copies of the priority documents have been received in Application No. _____.

  3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1 – 4 and 6 – 16 are presented for examination.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999

(AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002

do not apply when the reference is a U.S. patent resulting directly or indirectly from an

international application filed before November 29, 2000. Therefore, the prior art date of the

reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA

35 U.S.C. 102(e)).

3.   Claims 1, 8 – 10, 13, 15 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated

by Romanov U.S. Patent No. 6434144.

4.   As per claim 1, as closely interpreted by the Examiner, Romanov teaches a method for

representing a plurality of addresses in an address table in a communication system, the method

comprising the steps of:

5.   selecting at least one regular expression character having a predetermined meaning which

represents commonality between at least one character of each address in the plurality of

addresses, (e.g. col. 7, lines 8 – 55, *"Table 1"*);

6.   generating a single address that represents the plurality of addresses by inserting the

selected at least one regular expression character in place of the at least one character of the

plurality of addresses, thereby generating a group address, (e.g. col. 7, lines 8 – 55, *"Table 1"*);

and

7.   storing the generated group address in the address table, (e.g. col. 1, lines 35 – 55 & col.

7, line 17 – col. 8, line 16, *"prefix database"*),

8.   whereby a plurality of addresses are represented by a single group address entry in the

address table, (e.g. col. 1, lines 35 – 55 & col. 7, line 17 – col. 8, line 16, *"prefix database"*).

9.   Referencing claim 9, Romanov teaches the storage comprises and address configuration

table, (e.g. tables 1 – 8 & col. 6, line 59 – col. 7, line 22).

10.   As per claim 10, Romanov teaches wherein the regular expression character defines a

source address group, (e.g. tables 5 – 8 & col. 6, line 59 – col. 7, line 22).

11.   As per claim 13, Romanov teaches wherein the storage comprises a routing table, (e.g.

tables 5 – 8 & col. 6, line 59 – col. 7, line 22).

12.   Claims 8, 15 and 16 are rejected for similar reasons as stated above.

Claim Rejections - 35 USC § 103

13.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

14.   Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Romanov

(6434144) in view of Ankney et al. (5113499) (hereinafter Ankney).

15.   As per claim 2, Romanov does not specifically teach plurality of addresses comprises at

least one X.121 address. Ankney teaches plurality of addresses comprises at least one X.121

address, (e.g. col. 9, lines 6 – 30). It would have been obvious to one skilled in the art at the time

of the invention to combine Ankney with Romanov because if a user needed to utilize a system

that used X.121, it would be more efficient to have a diverse system with multiple addressing

schemes to use in different systems that could only support X.121 network packets.

16.   As per claim 3, as understood by the Examiner, Romanov and Ankney teach all that is

disclosed above. Romanov also teaches said storing step includes the further step of storing the

generated group address in an address configuration table, (e.g. tables 5 – 8 & col. 6, line 59 –

col. 7, line 22, *"prefix database"*, & col. 8, lines 48 – 59, *"search table"*).

17.   Claims 4, are rejected under 35 U.S.C. 103(a) as being unpatentable over Romanov

(6434144) in view of Beser (6189102).

18.   As per claim 4, Romanov does not specifically teach wherein the plurality of addresses

comprises at least one MAC address. Beser teaches wherein the plurality of addresses comprises

at least one MAC address, (e.g. col. 35, lines 6 – 32). It would have been obvious to one skilled

in the art at the time of the invention to combine Beser with Romanov because it would be more

versatile if the system utilized the functionality of a MAC address so a device has a physical

address along with a logical address.

19.   Claims 7, 11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Romanov (6434144) in view of Beser (6189102) in further view of Belser et al. (6151324)

(hereinafter Belser).

20.   As per claim 7, Romanov and Beser do not specifically teach storing the generated group

address in a management information base. Romanov teaches storing the generated group

address in a database as disclosed above. Belser teaches the use of a management information

base, (e.g. col. 10, lines 20 – 45). It would have been obvious to one skilled in the art at the time

of the invention to combine Belser with the combine system of Romanov and Beser because it

allows a network manager monitor packets to ensure that transmission is successful and that

devices are available in the network.

21.   As per claim 14, Romanov teaches all that is described above, but does not specifically

teach wherein the regular expression character defines a forwarding equivalence class for a

routing table entry. Beser teaches wherein the regular expression character defines a forwarding

equivalence class for a routing table entry, (e.g. col. 20, lines 23 – 48 & col. 22, line 60 – col. 23,

line 9). It would have been obvious to one skilled in the art at the time of the invention to

combine Beser with Romanov because it would be more efficient if the system were able to

forward equivalence class for a routing table entry in case of a network that would be expanded

and needed to update a routing table.

22.   Claim 11 is rejected for similar reasons as stated above.

23.   Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Romanov (6434144) in view of Peacock (6381650).

24.   As per claim 6, Romanov teaches all that is described above, but does not specifically

teach using the regular expression to specify at least one address of an address pool. Peacock

teaches using the regular expression to specify at least one address of an address pool, (e.g. col.

3, lines 19 – 40). It would have been obvious to one skilled in the art at the time of the invention
to combine Peacock with Romanov because it is more efficient to have a regular expression to
signify a pool of addresses then having multiple regular expressions for a pool of addresses. This
could save space in address tables and time in packet switching.

25.   Claim 12 is rejected for similar reasons as stated above.

Response to Arguments

26.   Applicant's arguments filed 07/20/2004 have been fully considered but they are not
persuasive.

27.   In the Remarks, Applicant argues in substance that Romanov discloses a prefix database
where the purpose of the prefix database is to aid longest prefix matching of IP) addresses. A
prefix is "a sequence of bits representing the most significant bits of an IP address, such as the
portion of an IP address corresponding to a second-level domain" (Romanov Col. 1 lines 38 –
41.) Thus a prefix is a portion of an address, not an address. There may be several prefixes in a
given prefix database that match a given IP address. This expression is used for convenience.
Since the prefix is not an address, one must know it's length, and the number following the slash
represents this, It is important to note that this form of expression is NOT what is stored in the
prefix database. The prefix databases of Romanov store "prefix Ids" that are numerical
representations of the prefix expression. Therefore, claims 1, 8 and 15 are allowable because

Romanov fails to teach or suggest the Applicant's claimed method for representing a plurality of addresses in an address table including the steps of "selecting at least one regular character having a predetermined meaning which represents commonality between at least one character of each address in the plurality of addresses; generating a single address that represents the plurality of addresses by inserting the selected at least one regular expression character in place of at least one character of the plurality of addresses, thereby generating a group address; and storing the generated group address in the address table."

28.   As to part 1, Examiner would like to draw the Applicant's attention to the to what was originally cited by the Examiner while rejecting claim 1, (e.g. col. 7, lines 8 – 55, *"Table 1"*). Which states in Table 1 a group or "range" of addresses from the first address to the last address then next to it is the Longest Matching Prefix, which is an address that represents the range for the first and last addresses. "For example, consider the interval ranging from 140.75.35.0 to 140.75.35.255, which is the prime continuum of the prefix 140.75.35.0/24", (e.g. col. 8, lines 25 – 29). As one can see, the prefix is a type of address that is stored in a database that is associated with a group of addresses with a commonality. Therefore, the prior art of Romanov <u>reads on the Applicant's claim language</u>.

29.   The Applicant is advised to talk more about the specifics of grouping addresses and the types of expressions that are used in the explicit selection of addresses.

30.   In the Remarks, Applicant argues in substance that Ankney adds nothing further to

correct the deficiencies of Romanov; thus, Romanov and Ankney, taken alone or in combination,

fail to teach or suggest the Applicants' claimed invention.

31.   As for part 2, Applicant's arguments fail to comply with 37 CFR 1.111(b) because they

amount to a general allegation that the claims define a patentable invention without specifically

pointing out how the language of the claims patentably distinguishes them from the references.

32.   In the Remarks, Applicant argues in substance that Beser adds nothing further to correct

the deficiencies of Romanov; thus, Romanov and Beser, taken alone or in combination, fail to

teach or suggest the Applicants' claimed invention.

33.   As for part 3, Applicant's arguments fail to comply with 37 CFR 1.111(b) because they

amount to a general allegation that the claims define a patentable invention without specifically

pointing out how the language of the claims patentably distinguishes them from the references.

34.   In the Remarks, Applicant argues in substance that Belser adds nothing further to correct

the deficiencies of Romanov and Beser; thus, Romanov Beser, and Belser, taken alone or in

combination, fail to teach or suggest the Applicants' claimed invention.

35.   As for part 4, Applicant's arguments fail to comply with 37 CFR 1.111(b) because they

amount to a general allegation that the claims define a patentable invention without specifically

pointing out how the language of the claims patentably distinguishes them from the references.

36.   In the Remarks, Applicant argues in substance that Peacock adds nothing further to

correct the deficiencies of Romanov; thus, Romanov and Peacock, taken alone or in

combination, fail to teach or suggest the Applicants' claimed invention.

37.   As for part 5, Applicant's arguments fail to comply with 37 CFR 1.111(b) because they

amount to a general allegation that the claims define a patentable invention without specifically

pointing out how the language of the claims patentably distinguishes them from the references.

Conclusion

38.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

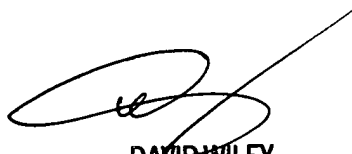Any inquiry concerning this communication or earlier communications from the examiner should be directed to David E. England whose telephone number is 571-272-3912. The examiner can normally be reached on Mon-Thur, 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on 571-272-3923. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David E. England
Examiner
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De

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